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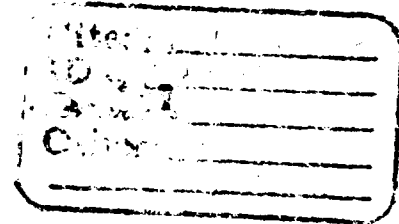
REMD SECTION

ECKENFELDER INC.

January 21, 1993

6836

Mr. Glenn M. Curtis
Waste Management Division
USEPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101



RE: Summary of Sampling and Analyses Within and Around Building Nos. 1, 2, and 3, DICO Property, Des Moines, Iowa

Dear Mr. Curtis:

At USEPA's request, on December 7, 1992, ECKENFELDER INC. gathered additional field samples associated with the on-going building investigation portion of Operable Unit No. 4 at the Des Moines TCE site. The Work Plan was approved in a letter from USEPA to Mr. Gary Schuster (DICO) dated December 4, 1992. Activities included air monitoring in Buildings 1 and 2 for pesticides and PCBs, and collection of dust samples from Buildings 1, 2, and 3. Soil sample collection (on December 11) from areas immediately adjacent to Building 1 and the garage was also conducted at USEPA's request (December 4 letter). Exact sample locations were field determined. Dust and soil samples were analyzed for the presence of 2,4-D and 2,4,5-T.

BUILDING DUST SAMPLING PROCEDURES

Dust samples from Buildings 1, 2, and 3 and the garage were collected to identify the possible presence of the herbicides 2,4-D and 2,4,5-T.

Five dust samples were collected from the interiors of Buildings 1, 2, and 3, and the garage. Specific dust sample locations and sample identification are presented in Figure 1.

Dust samples were collected using dedicated stainless steel scoopulas. Samples were collected from ceiling beams and joists, columns, and elevated fire protection piping. Dust was scraped from these surfaces directly into dedicated sample containers. Dust throughout the three buildings was limited, so several surfaces were scraped in order to obtain a minimum of 10 grams of dust from each building location. All sampling procedures were performed in accordance with the approved Work Plans.

#100377



S00104470
SUPERFUND RECORDS

Q:\6836\L0107.DOC

227 French Landing Drive
Nashville, Tennessee 37228
615.255.2288
FAX 615.256.8332

ED_001521C_00000389-00001

AIR MONITORING PROCEDURES

Airborne concentrations of pesticides and PCBs were determined using USEPA Method IP8, "Determination of Organochlorine Pesticides in Indoor Air," as described in USEPA Report No. 600/4-90/010, *Compendium of Methods for the Determination of Air Pollutants in Indoor Air*. Air was drawn through pre-extracted PUF plugs at a rate of approximately 2 liters per minute using personal sampling pumps for a sampling duration of 8 hours. The total volume of air drawn through each plug was approximately 960 liters. Samples were analyzed by the ECKENFELDER INC. laboratory in accordance with USEPA Method IP8. Briefly, the method consists of extraction of pesticides from the PUF plug using a solvent, followed by analysis with a gas chromatograph/electron capture detector (GC/ECD). These procedures had been previously approved by USEPA.

SOIL SAMPLING PROCEDURES

Soil samples were collected to identify the possible presence/absence of the herbicides 2,4-D and 2,4,5-T in fill soils surrounding the garage and the west side of Building 1. Soil sample locations were chosen based on best available information regarding the previous handling of these materials. Sample locations are shown in Figure 1.

Soil borings were drilled using 3-1/4-inch ID augers advanced to an elevation just above the sample depth. Soil samples were collected using a 24-inch long, 2-inch diameter split spoon sampler which was driven beyond the bottom of the auger. A representative sample of soil was then removed from the split spoon and placed in properly labeled glass sample containers. Decontamination of appropriate equipment was performed before and after each sample was retrieved.

Ten soil samples were collected from the five soil boring locations surrounding the garage and west side of Building 1. At each location, a sample was collected from two (2) discrete depth intervals. Samples collected at location SB-2 were from the 4 to 6-foot and 6 to 8-foot depth intervals. The remaining eight samples collected at locations SB-1, SB-3, SB-4, and SB-5 were from the 2 to 4-foot and 4 to 6-foot depth intervals.

RESULTS

All sample analyses were performed by the ECKENFELDER INC. laboratory located in Nashville, Tennessee.

Dust and soil samples were analyzed for the presence of 2,4-D and 2,4,5-T using USEPA Method 8151. Analytical results for the dust samples indicate the presence of both of these constituents in all five samples. Concentrations for 2,4-D in the dust samples ranged from 770 parts per million (ppm) to 7,700 ppm. Concentrations for

Mr. Glenn M. Curtis
Page 4
January 21, 1993

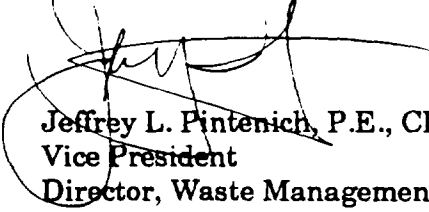
detected at relatively similar concentrations. The trip blank conducted as part of air sampling provided BMDL results for all constituent analyzed.

Samples were initially analyzed in the laboratory at a "low level" concentration range. Samples in which an analyte was detected in concentrations that exceeded the upper limit of the low level range were diluted and re-analyzed at a higher level concentration, or re-analyzed at a higher level without being diluted. Detection limits for the diluted samples were increased as a result of dilution. All dilutions were performed in accordance with CLP protocols.

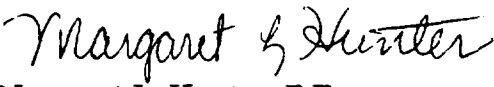
If you have any questions, do not hesitate to call.

Sincerely,

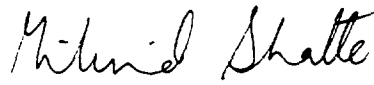
ECKENFELDER INC.



Jeffrey L. Pintenich, P.E., CHMM
Vice President
Director, Waste Management Division



Margaret L. Hunter, P.E.
Project Manager



Milind J. Bhatte, Ph.D.
Project Engineer

cc: C. Lettow
W. Soukup
J. Gerrity
G. Schuster

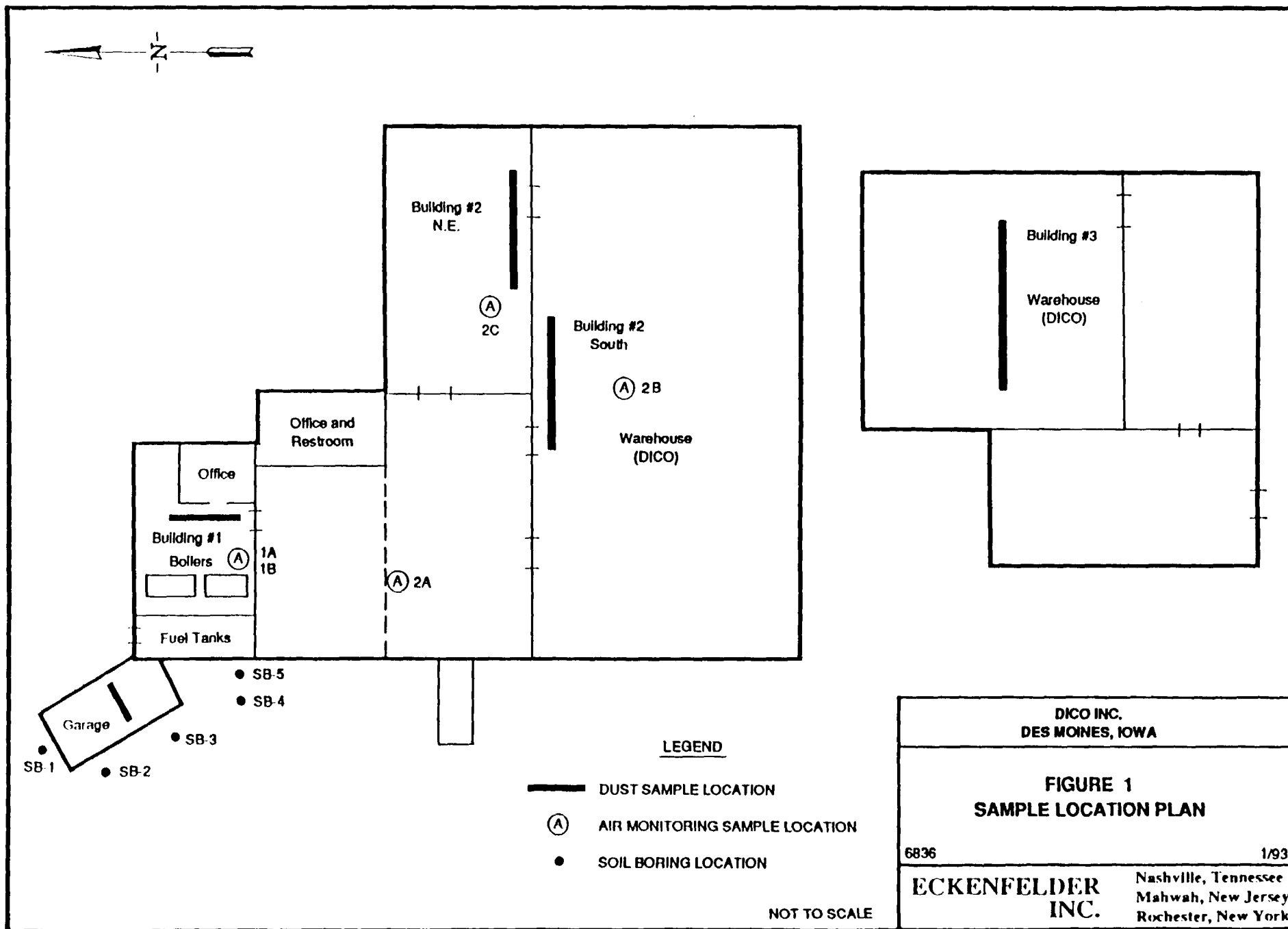


TABLE 1
BUILDING DUST SAMPLE AND SOIL SAMPLE RESULTS

DICO, INC.
DES MOINES, IOWA

Sample (Lab Number)	Type	Sample Date	Herbicide Compound by USEPA Method 8151 (mg/kg)	
			2,4-D	2,4,5-T
Building #1 (001)	Dust	12/7/92	6,100	950
Garage (004)	Dust	12/7/92	7,500	14
Building #2 Northeast (005)	Dust	12/7/92	7,700	430
Building #2 South (003)	Dust	12/7/92	770	580
Building #3 (002)	Dust	12/7/92	770	85
SB-1 (2'-4')	Soil	12/11/92	0.64	BMDL ^a
SB-1 (4'-6')	Soil	12/11/92	0.46	0.12
SB-2 (4'-6')	Soil	12/11/92	2.2	0.78
SB-2 (6'-8')	Soil	12/11/92	1.6	0.91
SB-3 (2'-4')	Soil	12/11/92	0.12	BMDL
SB-3 (4'-6')	Soil	12/11/92	0.27	BMDL
SB-4 (2'-4')	Soil	12/11/92	BMDL	BMDL
SB-4 (4'-6')	Soil	12/11/92	7.4	0.42
SB-5 (2'-4')	Soil	12/11/92	BMDL	BMDL
SB-5 (4'-6')	Soil	12/11/92	BMDL	BMDL

^aBMDL denotes Below Method Detection Level

TABLE 3
SAMPLE VOLUME DETERMINATION

DICO, INC.
DES MOINES, IOWA

Parameter	Sample 1A (Bldg. No. 1)	Sample 1B (Bldg. No. 1)	Sample 2A (Bldg. No. 2)	Sample 2B (Bldg. No. 2)	Sample 2C (Bldg. No. 2)
Flow rate, liters per minute	1.97	2.03	1.99	2.05	2.01
Sampling duration, minutes	480	480	480	480	480
Sample Volume, liters	945.6	974.4	955.2	984	964.8

TABLE 2
ANALYTICAL RESULTS FOR PUF PLUGS (AIR SAMPLES)

DICO, INC.
DES MOINES, IOWA

Compound	Mol. Wt. g/gmol	Detection Limit ng ^a	Sample 1A (Bldg. No. 1) ng	Sample 1B (Bldg. No. 1) ng	Sample 2A (Bldg. No. 2) ng	Sample 2B (Bldg. No. 2) ng	Sample 2C (Bldg. No. 2) ng	Trip Blank ng
Alpha-BHC	291	4	BMDL ^b	BMDL	BMDL	33	BMDL	BMDL
Beta-BHC	291	8	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Gamma-BHC	291	12	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Delta-BHC	291	12	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Aldrin	365	4	76	79	130	87	120	BMDL
Chlordane(tech.)	410	4	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
4,4'-DDD	320	16	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
4,4'-DDE	319	8	65	62	25	BMDL	BMDL	BMDL
4,4'-DDT	354	16	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Dieldrin	381	16	18	29	22	BMDL	BMDL	BMDL
Endosulfan I	407	12	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Endosulfan II	407	24	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Endosulfan sulfate	423	40	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Endrin	381	8	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Endrin aldehyde	381	28	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Heptachlor	373	8	43	46	68	28	29	BMDL
Heptachlor epoxide	389	16	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Methoxychlor	346	720	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Toxaphene	414	960	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Alpha-Chlordane	410	4	6.9	11	10	4.8	BMDL	BMDL
Gamma-Chlordane	410	4	16	21	23	11	9.8	BMDL
2,4'-DDD	320	16	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
2,4'-DDE	319	8	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
2,4'-DDT	354	16	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1016	258	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1221	202	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1232	230	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1242	267	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1248	300	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1254	329	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Arochlor-1260	377	1	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL

^a1 ng = 1 x 10⁻⁹ g.

BMDL denotes below method detection limit.

TABLE 4
AIRBORNE CONCENTRATIONS

DICO, INC.
DES MOINES, IOWA

Compound	Sample 1A		Sample 1B		Sample 2A		Sample 2B		Sample 2C	
	ng/m ^{3a}	pptv ^b	ng/m ³	pptv	ng/m ³	pptv	ng/m ³	pptv	ng/m ³	pptv
Alpha-BHC	<4.2	<0.36	<4.1	<0.35	<4.2	<0.35	33.5	2.83	<34.2	<2.88
Beta-BHC	<8.5	<0.71	<8.2	<0.69	<8.4	<0.71	<8.1	<0.68	<8.3	<0.70
Gamma-BHC	<12.7	<1.07	<12.3	<1.04	<12.6	<1.06	<12.2	<1.03	<12.4	<1.05
Delta-BHC	<12.7	<1.07	<12.3	<1.04	<12.6	<1.06	<12.2	<1.03	<12.4	<1.05
Aldrin	80.4	5.40	81.1	5.44	136.1	9.14	88.4	5.94	90.2	6.05
Chlordane(tech.)	<4.2	<0.25	<4.1	<0.25	<4.2	<0.25	<4.1	<0.24	<4.1	<0.25
4,4'-DDD	<16.9	<1.30	<16.4	<1.26	<16.8	<1.28	<16.3	<1.24	<16.6	<1.27
4,4'-DDE	68.7	5.28	63.6	4.89	26.2	2.01	<8.1	<0.62	<8.3	<0.64
4,4'-DDT	<16.9	<1.17	<16.4	<1.13	<16.8	<1.16	<16.3	<1.12	<16.6	<1.15
Dieldrin	19.0	1.22	29.8	1.91	23.0	1.48	<16.3	<1.05	<16.6	<1.07
Endosulfan I	<12.7	<0.76	<12.3	<0.74	<12.6	<0.76	<12.2	<0.73	<12.4	<0.75
Endosulfan II	<25.4	<1.63	<24.6	<1.48	<25.1	<1.51	<24.4	<1.47	<24.9	<1.50
Endosulfan sulfate	<42.3	<2.45	<41.1	<2.38	<41.9	<2.43	<40.7	<2.35	<41.5	<2.40
Endrin	<8.5	<0.54	<8.2	<0.53	<8.4	<0.54	<8.1	<0.52	<8.3	<0.53
Endrin aldehyde	<29.6	<1.90	<28.7	<1.85	<29.3	<1.89	<28.5	<1.83	<29.0	<1.87
Heptachlor	45.5	2.98	47.2	3.10	71.2	4.67	28.5	1.87	29.0	1.90
Heptachlor epoxide	<16.9	<1.06	<16.4	<1.03	<16.8	<1.05	<16.3	<1.02	<16.6	<1.04
Methoxychlor	<761.4	<53.97	<738.9	<52.37	<753.8	<53.43	<731.7	<51.86	<746.3	<52.89
Toxaphene	<1,015.2	<60.11	<985.2	<58.33	<1005.0	<59.50	<975.6	<57.76	<995.0	<58.91
Alpha-Chlordane	7.3	0.44	11.3	0.67	10.5	0.63	4.9	0.29	<5.0	<0.30
Gamma-Chlordane	16.9	1.01	21.6	1.29	24.1	1.44	11.2	0.67	11.4	0.68
2,4'-DDD	<16.9	<1.30	<16.4	<1.26	<16.8	<1.28	<16.3	<1.24	<16.6	<1.27
2,4'-DDE	<8.5	<0.65	<8.2	<0.63	<8.4	<0.64	<8.1	<0.62	<8.3	<0.64
2,4'-DDT	<16.9	<1.17	<16.4	<1.13	<16.8	<1.16	<16.3	<1.12	<16.6	<1.15
Arochlor-1016	<1.1	<0.10	<1.0	<0.10	<1.0	<0.10	<1.0	<0.10	<1.0	<0.10
Arochlor-1221	<1.1	<0.13	<1.0	<0.12	<1.0	<0.13	<1.0	<0.12	<1.0	<0.13
Arochlor-1232	<1.1	<0.11	<1.0	<0.11	<1.0	<0.11	<1.0	<0.11	<1.0	<0.11
Arochlor-1242	<1.1	<0.10	<1.0	<0.09	<1.0	<0.10	<1.0	<0.09	<1.0	<0.10
Arochlor-1248	<1.1	<0.09	<1.0	<0.08	<1.0	<0.09	<1.0	<0.08	<1.0	<0.08
Arochlor-1254	<1.1	<0.08	<1.0	<0.08	<1.0	<0.08	<1.0	<0.08	<1.0	<0.08
Arochlor-1260	<1.1	<0.07	<1.0	<0.07	<1.0	<0.07	<1.0	<0.07	<1.0	<0.07

^a1 ng = 1 x 10⁻⁹ g

^bpptv = parts per trillion (volume basis)

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/7/92, 12/11/92

DATE RECEIVED: 12/8/92, 12/12/92

DATE REPORTED: 1/6/93

ECKENFELDER SAMPLE NUMBER		7925	7926	7927	7928	7929	8199
CLIENT SAMPLE DESCRIPTION		001	002	003	004	005	SB-1
DUST/SOIL							2-4'
HERBICIDE COMPOUNDS BY USEPA METHOD 8151	DETECTION LIMITS	4000X (1) CONC	400X (1) CONC	2000X (1) CONC	100X (1) CONC	2000X (1) CONC	CONC
2,4-D	100	6100000	770000	770000	7500000	7700000	640
2,4,5-T	100	950000	85000	580000	14000	430000	BMDL

ALL RESULTS EXPRESSED IN MICROGRAMS/KILOGRAM
(WET) UNLESS OTHERWISE NOTED.

BMDL = BELOW METHOD DETECTION LIMIT

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA
HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED,
DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

227 French Landing Drive
Nashville, Tennessee 37228
615.255.2288
FAX 615.255.8332

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/11/92

DATE RECEIVED: 12/12/92

DATE REPORTED: 1/6/93

ECKENFELDER SAMPLE NUMBER		8200	8201	8202	8203	8204	8205
CLIENT SAMPLE DESCRIPTION		SB-1	SB-2	SB-2	SB-3	SB-3	SB-4
DUST/SOIL		4-6'	6-8'	4-6'	2-4'	4-6'	2-4'
HERBICIDE COMPOUNDS BY USEPA METHOD 8151	DETECTION LIMITS	CONC	4X (1) CONC	5X (1) CONC	CONC	CONC	5X (1) CONC
2,4-D	100	460	2200	1600	120	270	BMD
2,4,5-T	100	120	780	910	BMDL	BMDL	BMD

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DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/11/92

DATE RECEIVED: 12/12/92

DATE REPORTED: 1/6/93

ECKENFELDER SAMPLE NUMBER		8206	8207	8208	
CLIENT SAMPLE DESCRIPTION DUST/SOIL		SB-4 4-6'	SB-5 2-4'	SB-5 4-6'	METHOD BLANK
HERBICIDE COMPOUNDS BY USEPA METHOD 8151	DETECTION LIMITS	2X (1) CONC	CONC	CONC	CONC
2,4-D	100	7400	BMDL	BMDL	BMDL
2,4,5-T	100	420	BMDL	BMDL	BMDL

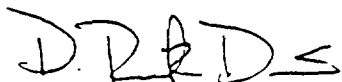
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DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

ECKENFELDER INC.



D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/07/92

DATE ANALYZED: 12/08/92

DATE REPORTED: 1/10/93

ECKENFELDER SAMPLE NUMBER		7930	7931	7932	7933
CLIENT SAMPLE DESCRIPTION		1A	1B	2A	2B
PESTICIDE/PCB COMPOUNDS BY USEPA METHOD 8080/8081	DETECTION LIMITS	2X (1) CONC	2X (1) CONC	2X (1) CONC	2X (1) CONC
ALPHA-BHC	2.0	BMDL	BMDL	BMDL	33
BETA-BHC	4.0	BMDL	BMDL	BMDL	BMDL
GAMMA-BHC	6.0	BMDL	BMDL	BMDL	BMDL
DELTA-BHC	6.0	BMDL	BMDL	BMDL	BMDL
ALDRIN	2.0	76	79	130 (3)	87
CHLORDANE	2.0	BMDL	BMDL	BMDL	BMDL
4,4'-DDD	8.0	BMDL	BMDL	BMDL	BMDL
4,4'-DDE	4.0	65	62	25 (2)	BMDL
4,4'-DDT	8.0	BMDL	BMDL	BMDL	BMDL
DIELDRIN	8.0	18 (2)	29 (2)	22	BMDL
ENDOSULFAN I	6.0	BMDL	BMDL	BMDL	BMDL
ENDOSULFAN II	12	BMDL	BMDL	BMDL	BMDL
ENDOSULFAN SULFATE	20	BMDL	BMDL	BMDL	BMDL
ENDRIN	4.0	BMDL	BMDL	BMDL	BMDL
ENDRIN ALDEHYDE	14	BMDL	BMDL	BMDL	BMDL
HEPTACHLOR	4.0	43	46	68	28
HEPTACHLOR EPOXIDE	8.0	BMDL	BMDL	BMDL	BMDL
METHOXYCHLOR	360	BMDL	BMDL	BMDL	BMDL

ALL PESTICIDE RESULTS EXPRESSED IN NANOGRAMS.

ALL PCB RESULTS EXPRESSED IN MICROGRAMS.

BMDL = BELOW METHOD DETECTION LIMITS

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA
HOLDING TIMES UNLESS OTHERWISE NOTED.

* = ESTIMATED VALUE BASED ON THE 4,4' ISOMER

(1) = PESTICIDE/PCB SAMPLES WERE DILUTED BY THE NUMERICAL VALUE
DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR

(2) = PESTICIDE COULD NOT BE CONFIRMED DUE TO SAMPLE MATRIX

(3) = CONCENTRATION BASED ON PACKED COLUMN, MEGABORE COLUMN
WAS USED FOR CONFIRMATION.

DUE TO THE PRESENCE OF OTHER CHLORINATED ORGANIC COMPOUNDS
TECHNICAL CHLORDANE WAS UNABLE TO BE IDENTIFIED .

227 French Landing Drive
Nashville, Tennessee 37228
615.255.2288
FAX 615.256.8332

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/07/92

DATE ANALYZED: 12/08/92

DATE REPORTED: 1/10/93

ECKENFELDER SAMPLE NUMBER		7930	7931	7932	7933
CLIENT SAMPLE DESCRIPTION		1A	1B	2A	2B
PESTICIDE/PCB COMPOUNDS BY USEPA METHOD 8080/8081	DETECTION LIMITS	2X (1) CONC	2X (1) CONC	2X (1) CONC	2X (1) CONC
TOXAPHENE	480	BMDL	BMDL	BMDL	BMDL
ALPHA-CHLORDANE	2.0	6.9	11	10 (2)	4.8 (2)
GAMMA-CHLORDANE	2.0	16	21	23	11
ENDRIN KETONE	4.0	BMDL	BMDL	BMDL	BMDL
2,4'-DDD	8.0*	BMDL	BMDL	BMDL	BMDL
2,4'-DDE	4.0*	BMDL	BMDL	BMDL	BMDL
2,4'-DDT	8.0*	BMDL	BMDL	BMDL	BMDL
PCB1016	0.5	BMDL	BMDL	BMDL	BMDL
PCB-1221	0.5	BMDL	BMDL	BMDL	BMDL
PCB-1232	0.5	BMDL	BMDL	BMDL	BMDL
PCB-1242	0.5	BMDL	BMDL	BMDL	BMDL
PCB-1248	0.5	BMDL	BMDL	BMDL	BMDL
PCB-1254	0.5	BMDL	BMDL	BMDL	BMDL
PCB-1260	0.5	BMDL	BMDL	BMDL	BMDL

ALL PESTICIDE RESULTS EXPRESSED IN NANOGRAMS.

ALL PCB RESULTS EXPRESSED IN MICROGRAMS.

BMDL = BELOW METHOD DETECTION LIMITS

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* = ESTIMATED VALUE BASED ON THE 4,4' ISOMER

(1) = PESTICIDE/PCB SAMPLES WERE DILUTED BY THE NUMERICAL VALUE
DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR

(2) = PESTICIDE COULD NOT BE CONFIRMED DUE TO SAMPLE MATRIX

DUE TO THE PRESENCE OF OTHER CHLORINATED ORGANIC COMPOUNDS
TECHNICAL CHLORDANE WAS UNABLE TO BE IDENTIFIED .

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/07/92

DATE ANALYZED: 12/08/92

DATE REPORTED: 1/10/93

ECKENFELDER SAMPLE NUMBER		7934	7935	
CLIENT SAMPLE DESCRIPTION		2C	TRIP BLANK	METHOD BLANK
PESTICIDE/PCB COMPOUNDS BY USEPA METHOD 8080/8081	DETECTION LIMITS	2X (1) CONC	2X (1) CONC	2X (1) CONC
ALPHA-BHC	2.0	BMDL	BMDL	BMDL
BETA-BHC	4.0	BMDL	BMDL	BMDL
GAMMA-BHC	6.0	BMDL	BMDL	BMDL
DELTA-BHC	6.0	BMDL	BMDL	BMDL
ALDRIN	2.0	120 (3)	BMDL	BMDL
CHLORDANE	2.0	BMDL	BMDL	BMDL
4,4'-DDD	8.0	BMDL	BMDL	BMDL
4,4'-DDE	4.0	BMDL	BMDL	BMDL
4,4'-DDT	8.0	BMDL	BMDL	BMDL
DIELDRIN	8.0	BMDL	BMDL	BMDL
ENDOSULFAN I	6.0	BMDL	BMDL	BMDL
ENDOSULFAN II	12	BMDL	BMDL	BMDL
ENDOSULFAN SULFATE	20	BMDL	BMDL	BMDL
ENDRIN	4.0	BMDL	BMDL	BMDL
ENDRIN ALDEHYDE	14	BMDL	BMDL	BMDL
HEPTACHLOR	4.0	29	BMDL	BMDL
HEPTACHLOR EPOXIDE	8.0	BMDL	BMDL	BMDL
METHOXYCHLOR	360	BMDL	BMDL	BMDL

ALL PESTICIDE RESULTS EXPRESSED IN NANOGRAMS.

ALL PCB RESULTS EXPRESSED IN MICROGRAMS.

BMDL = BELOW METHOD DETECTION LIMITS

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA
HOLDING TIMES UNLESS OTHERWISE NOTED.

* = ESTIMATED VALUE BASED ON THE 4,4' ISOMER

(1) = PESTICIDE/PCB SAMPLES WERE DILUTED BY THE NUMERICAL VALUE
DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR

(3) = CONCENTRATION BASED ON PACKED COLUMN, MEGABORE COLUMN
WAS USED FOR CONFIRMATION.

DUE TO THE PRESENCE OF OTHER CHLORINATED ORGANIC COMPOUNDS,
TECHNICAL CHLORDANE WAS UNABLE TO BE IDENTIFIED.

ECKENFELDER INC.

CLIENT: DICO COMPANY, INC. #6836

DATE SAMPLED: 12/07/92

DATE ANALYZED: 12/08/92

DATE REPORTED: 1/10/93

ECKENFELDER SAMPLE NUMBER		7934	7935	
CLIENT SAMPLE DESCRIPTION		2C	TRIP BLANK	METHOD BLANK
PESTICIDE/PCB COMPOUNDS BY USEPA METHOD 8080/8081	DETECTION LIMITS	2X (1) CONC	2X (1) CONC	2X (1) CONC
TOXAPHENE	480	BMDL	BMDL	BMDL
ALAPHA-CHLORDANE	2.0	BMDL	BMDL	BMDL
GAMMA-CHLORDANE	2.0	9.8	BMDL	BMDL
ENDRIN KETONE	4.0	BMDL	BMDL	BMDL
2,4'-DDD	8.0*	BMDL	BMDL	BMDL
2,4'-DDE	4.0*	BMDL	BMDL	BMDL
2,4'-DDT	8.0*	BMDL	BMDL	BMDL
PCB1016	0.5	BMDL	BMDL	BMDL
PCB-1221	0.5	BMDL	BMDL	BMDL
PCB-1232	0.5	BMDL	BMDL	BMDL
PCB-1242	0.5	BMDL	BMDL	BMDL
PCB-1248	0.5	BMDL	BMDL	BMDL
PCB-1254	0.5	BMDL	BMDL	BMDL
PCB-1260	0.5	BMDL	BMDL	BMDL

ALL PESTICIDE RESULTS EXPRESSED IN NANOGRAMS.

ALL PCB RESULTS EXPRESSED IN MICROGRAMS.

BMDL = BELOW METHOD DETECTION LIMITS

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA
HOLDING TIMES UNLESS OTHERWISE NOTED.

* = ESTIMATED VALUE BASED ON THE 4,4' ISOMER

(1) = PESTICIDE/PCB SAMPLES WERE DILUTED BY THE NUMERICAL VALUE
DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR

DUE TO THE PRESENCE OF OTHER CHLORINATED ORGANIC COMPOUNDS,
TECHNICAL CHLORDANE WAS UNABLE TO BE IDENTIFIED .

ECKENFELDER INC.



D. RICK DAVIS

VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

